USER INSTRUCTIONS

WALL HUNG RSF GAS FIRED CONDENSING COMBINATION BOILER

GREENSTAR CDi CLASSIC

FOR SEALED CENTRAL HEATING SYSTEMS AND MAINS FED DOMESTIC HOT WATER

The appliances are for use with:
Natural Gas or L.P.G. (Catt II type C13 & C33)

Natural Gas: 29CDi GC number 47-406-34
34CDi GC number 47-406-36
38CDi GC number 47-406-38
42CDi GC number 47-406-10

L.P.G.: 29CDi GC number 47-406-35
34CDi GC number 47-406-37
38CDi GC number 47-406-39
42CDi GC number 47-406-11

UK/IE

benchmark
COLLECTIVE MARK
THE MARK OF QUALITY FOR THE INSTALLATION, COMMISSIONING AND SERVICING OF DOMESTIC HEATING AND HOT WATER SYSTEMS

WORCESTER
Bosch Group

6 720 803 600 (2012/06)

PREFACE

PLEASE READ THESE INSTRUCTIONS CAREFULLY

These instructions are applicable to the Worcester, Bosch Group boiler model stated on the front cover only.

These instructions apply in the UK/IE only and must be followed except for any statutory obligation.

After installation please leave this User Instruction manual and the Installation, Commissioning and Servicing Instructions with the user.

DEDICATED TO HEATING COMFORT

Thank you for purchasing a Greenstar gas-fired condensing combination boiler manufactured by Worcester, Bosch Group. The company prides itself on manufacturing boilers to the strictest quality control standards throughout every stage of production.

Worcester, Bosch Group has led the field in innovative boiler design and performance for almost 50 years. This heritage means all our products are of exceptional quality and proven reliability.

The Greenstar range in particular is extremely energy efficient, offering you economical running costs and value for money. It sits in SEDBUK Band A, and is therefore amongst the top energy rated boilers available.

There is also the reassurance of our no-nonsense 2 years parts and labour guarantee - backed up by Worcester Total Cover, an optional complete maintenance scheme to keep your boiler operating at peak condition and efficiency.

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1 SYMBOLS AND SAFETY PRECAUTIONS

1.1 EXPLANATION OF SYMBOLS

WARNING SYMBOLS

Safety instructions in this document are framed and identified by a warning triangle which is printed on a grey background.

Signal words indicate the seriousness of the hazard in terms of the consequences of not following the safety instructions.

- **NOTICE** indicates possible damage to property or equipment, but where there is no risk of personal injury.
- **CAUTION** indicates possible personal injury.
- **WARNING** indicates possible severe personal injury.

IMPORTANT INFORMATION

Notes contain important information in cases where there is no risk of personal injury or material losses and are identified by the symbol shown on the left. They are bordered by horizontal lines above and below the text.

ADDITIONAL SYMBOLS

Symbol	Meaning
1.	a numbered step in an action sequence
►	a step in an action sequence
(1)	a reference number to identify or refer to a part or item
•	a list entry
–	a list entry (second level)

Table 1 Symbols

1.2 SAFETY PRECAUTIONS

IF YOU SMELL GAS!

- Call the National Gas Emergency Service on: 0800 111 999
- Extinguish any naked flames
- Do not smoke or strike matches
- Do not turn electrical switches on or off
- Open doors and windows
- Keep people away from the affected area
- Turn off the gas control valve at the meter

BOILER OPERATION:

This boiler must only be operated by a responsible adult who has been instructed in, understands and is aware of the boiler's operating conditions and effects.

COMBUSTIBLE AND CORROSIVE MATERIALS:

Chemically aggressive substances can corrode the boiler and invalidate any guarantee.

- Do not store or use any combustible materials (paper, thinners, paints, propellants, cleaning agents etc.) inside or within the vicinity of the appliance.

FITTINGS AND MODIFICATIONS:

Only a competent engineer can remove the boiler case and carry out any work, in accordance with the Gas Safety (Installation and Use) Regulations.

- Do not remove the boiler case.

Any misuse or unauthorised modifications to the boiler, flue or associated accessories and heating system will invalidate the guarantee.

- Do not modify the boiler or flue system in any way.

Worcester, Bosch Group accepts no liability arising from any such actions. This does not affect your statutory rights.

2 GENERAL INFORMATION

SERVICING

Ensure that the service engineer completes the Service Record in the Benchmark Checklist after each service. The Benchmark Checklist and service interval record can be found at the rear of the Installation, Commissioning and Servicing Instructions.

- The boiler must be serviced regularly by a competent, qualified person, such as a Worcester service engineer or other Gas Safe registered engineer.
- Always use original spares, to help maintain the efficiency, safety and reliability of the boiler and have the Service Record completed in the Benchmark Checklist.

The completed Benchmark Checklist will be required in the event of any guarantee work and may be required by the local Building Control Inspector.

BENCHMARK STANDARD

benchmark
COLLECTIVE MARK
THE MARK OF QUALITY FOR THE INSTALLATION, COMMISSIONING AND SERVICING OF DOMESTIC HEATING AND HOT WATER SYSTEMS

The Benchmark initiative is a code of practice to encourage the correct installation, commissioning and servicing of domestic central heating boilers and system equipment.

A “checklist” is dispatched with every boiler. This is a vital document that needs to be completed by the installer at the time of installation. It confirms that the boiler has been installed and commissioned according to the manufacturer's instructions.

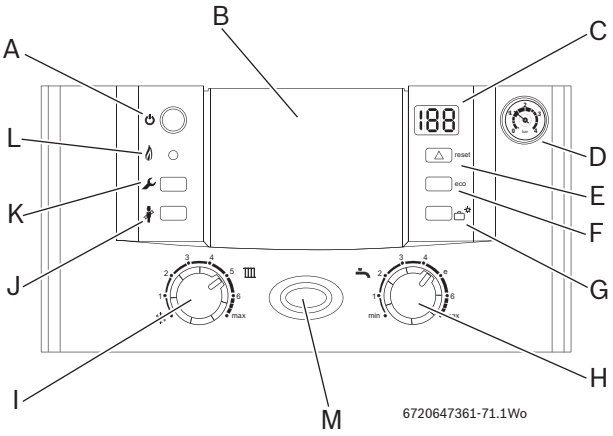
The log book provides space for the recording of regular servicing of the boiler/heating system and this can become a valuable document when, for example, you wish to sell the property. The log book will show a potential purchaser that the heating system has received regular professional maintenance and servicing during its lifetime.

The Benchmark initiative aims to:

- Raise standards among professional installers
- Build and maintain high safety standards in the industry
- Improve customer satisfaction levels
- Make a contribution to the nation's commitment to climate change

3 OPERATING THE BOILER

3.1 CONTROLS



[A] MAIN POWER ON/OFF BUTTON

[B] COVER OR POSITION FOR OPTIONAL PLUG-IN CONTROLLER

[C] DISPLAY

[D] SYSTEM PRESSURE GAUGE

[E] RESET BUTTON

[F] ECO BUTTON (DOMESTIC HOT WATER PRE-HEAT ON/OFF)

[G] HOLIDAY BUTTON

[H] DOMESTIC HOT WATER TEMPERATURE CONTROL

[I] CENTRAL HEATING TEMPERATURE CONTROL

[J] SERVICE ENGINEER BUTTON ONLY

[K] SERVICE ENGINEER BUTTON ONLY

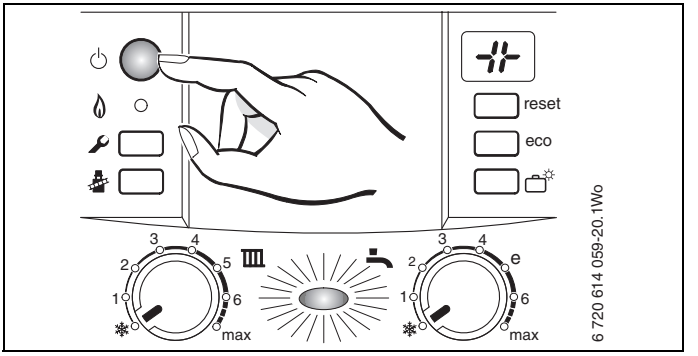
[L] BURNER INDICATOR LIGHT

[M] POWER INDICATOR & FAULT INDICATOR (BLUE)

3.2 SWITCHING THE BOILER ON/OFF

Switching on

- Switch on the boiler by pressing the main power button.
  The power button light shows blue.



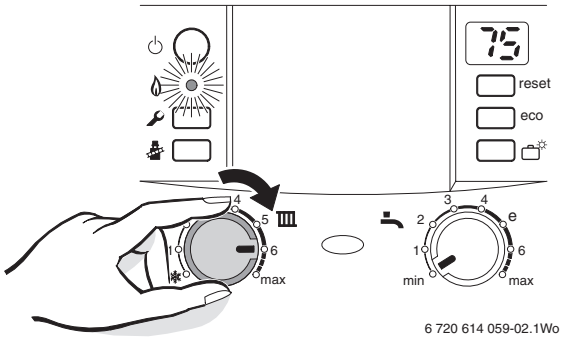
The boiler runs for 15 minutes at minimum heating output to fill the condensate trap. The display alternates between and the central heating flow temperature. This occurs every time the mains supply has been interrupted.

Switching off

- Switch off the boiler by pressing the main power button.
  The blue power button light goes out.

3.3 SETTING THE CENTRAL HEATING TEMPERATURE

- Turn the central heating temperature control to the desired level, between approx. 35°C and 90°C.
- When the burner is lit, the green indicator light underneath the on/off switch is illuminated.



Position	Central heating temperature
1	approx. 35°C
2	approx. 43°C
3	approx. 50°C
4	approx. 60°C
5	approx. 67°C
6	approx. 75°C
max	approx. 90°C

Table 2 Settings for the central heating temperature

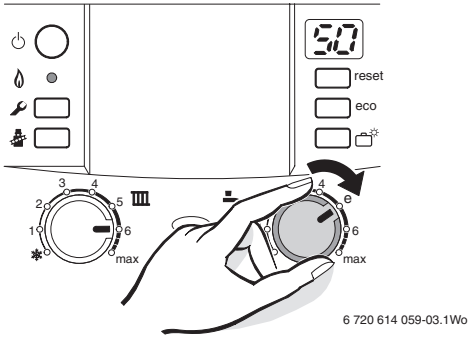
3.3.1 CONTROLLING THE CENTRAL HEATING

Central heating systems must be controlled effectively using a programmer or timer and a room thermostat.

- For further information on how to control your central heating system please refer to the individual user guides for the programmer or timer installed in your home.

3.4 SETTING THE DOMESTIC HOT WATER TEMPERATURE

- Turn the domestic hot water temperature control to the desired level, between approximately 40°Cand 60°C.

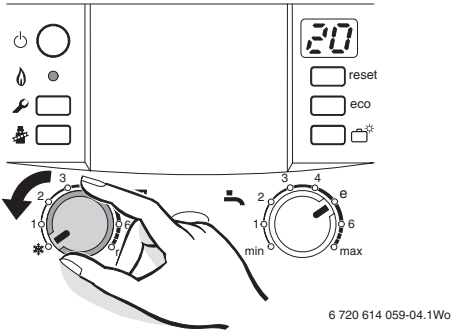


Position	Domestic hot water temperature
min	approx. 40°C
e	approx. 50°C
max	approx. 60°C

Table 3 Settings for the domestic hot water temperature

3.5 FROST PROTECTION (FOR THE BOILER)

Activating frost protection will turn off the central heating system.
Heating of domestic water will stay activated.
If the temperature within the boiler drops to 5°C the boiler will fire to avoid the possibility of freezing.



To activate frost protection:

- Leave master switch on.
- Turn the central heating control temperature control to ❄.

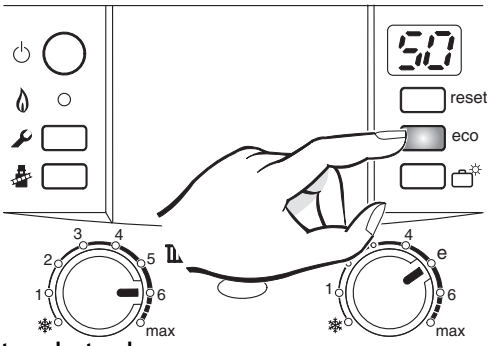
3.5.1 FROST PROTECTION (FOR THE HEATING SYSTEM)

If remote pipework is likely to be subject to freezing conditions:

- Ensure the installer has fitted a frost thermostat in the area to protect the pipework from freezing.
- Ensure the installer has added a suitable anti-freeze fluid to the water in the central heating system.

3.6 DOMESTIC HOT WATER PRE-HEAT

You can choose to run your boiler in pre-heat mode or in ECO mode. Pre-heat reduces the time taken to produce hot water at the tap and is controlled by the ECO button. When the ECO button is illuminated, the boiler runs in ECO mode and pre-heat is not available.



6 720 614 059-06.1Wo

To activate pre-heat mode:

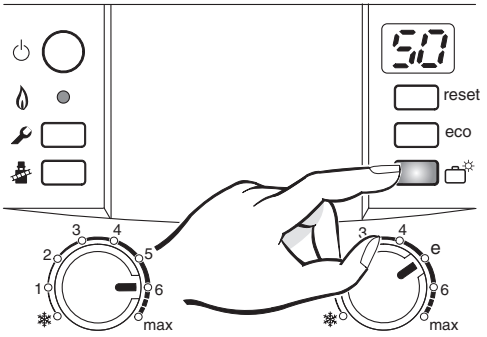
- Press the ECO button until it is no longer illuminated.

To activate ECO mode:

- Press the ECO button until it is illuminated.

3.7 HOLIDAY SETTING

Activating the holiday setting will turn off the central heating system.
Frost protection and heating of domestic hot water will stay activated.



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To activate the holiday setting:

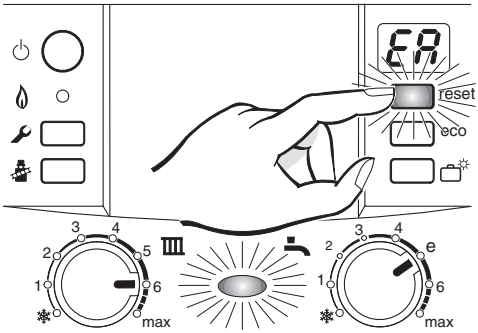
- Press the holiday button until it is illuminated.

To deactivate the holiday setting:

- Press the holiday button until it is no longer illuminated.

3.8 FAULT CONDITION

In the unlikely event of a fault occuring while the boiler is in operation the reset button and the main power indicator will flash. The display will show a fault code.



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To reset the boiler:

- Press the reset button for three seconds.
  The reset button and the mains power indicator will stop flashing.
  The boiler will function normally, dependent on programmer and room thermostat settings.

If the fault cannot be cleared by pressing the reset button:

- Refer to the fault finding section on page 12 of this user guide.
- Call Worcester, Bosch Group, giving a description of the fault and, if possible, the fault code from the seven segment display. Alternatively contact other Gas Safe registered personnel for assistance.

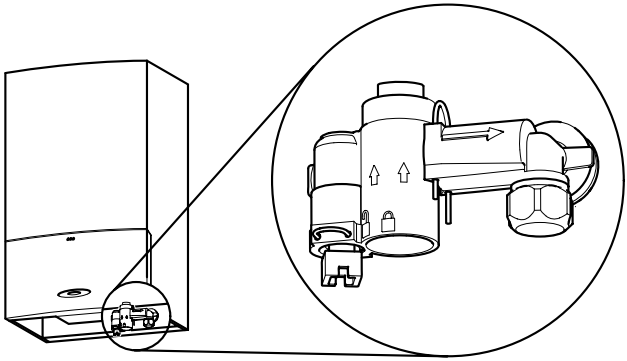
4 MAINTENANCE

4.1 RE-PRESSURING THE HEATING SYSTEM

It is important to regularly check the pressure gauge on your combination boiler to keep it running efficiently. The pressure should be at an optimum level of 1.5 bar. If the pressure falls below 1 bar the boiler may stop working and require re-pressurising & resetting.

To re-pressurise the heating system:

1. Remove the bottom panel to gain access to the filling key and filling link.
   The fillink link is situated as indicated below:



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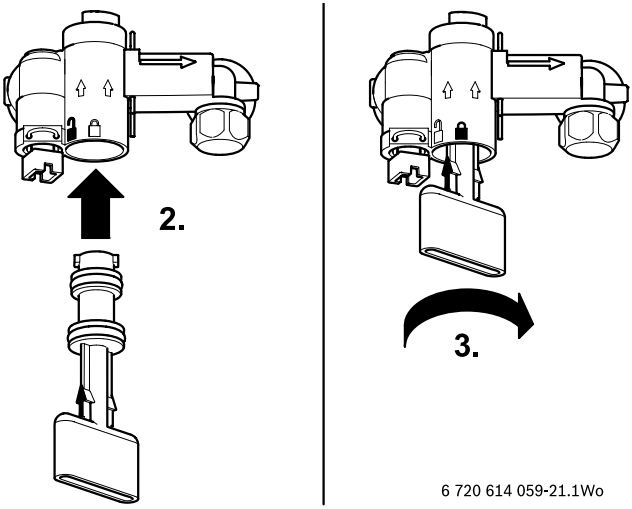
2. Insert the filling key into the bottom of the charging link and push it upwards. The arrow on the key shaft must be in line with the open padlock symbol on the charging link.



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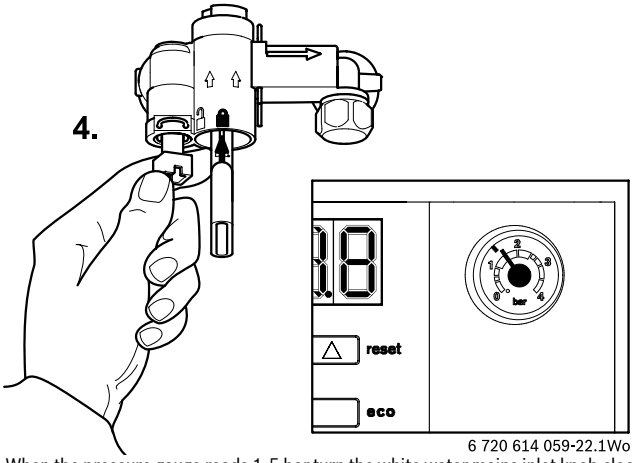
3. Turn the filling key clockwise to the closed padlock position.

4. Test whether the filling key is locked properly in closed padlock position by pulling down on the key.
   If the key is loose, can be rotated or pulled out of the filling link please repeat steps 1 to 3.
5. With filling key in locked position turn the water mains inlet knob (white) anticlockwise to open.
   This fills the heating system with mains water.



6 720 614 059-22.1Wo

6. When the pressure gauge reads 1.5 bar turn the white water mains inlet knob clockwise to close.
7. Turn the filling key anticlockwise to the open padlock position and remove from the charging link.
8. Stow the filling key back inside the bottom panel underneath the boiler.

4.2 FAULT FINDING

This table gives information on basic operating system problems.

Problem	Cause	Remedy
EA fault code flashing on display	No gas supply/low gas supply pressure	▶ Contact your gas supplier.
	Condensate outlet blocked	▶ If it is safe to do so, check your condensate pipe outlet for blockages, such as ice or foreign objects.
	Flue blocked	▶ If it is safe to do so, check your flue outlet for damage or blockages.
Desired room temperature is not reached	Thermostatic radiator valve(s) set too low	▶ Increase thermostatic radiator valve setting(s)
	Temperature control for central heating flow on boiler set too low	▶ Increase central heating flow temperature control setting
	Air trapped in heating system	▶ Bleed radiators and recharge heating system
	Low system water pressure	▶ Re-pressurise the system, refer to pages 10
	Low temperature setting on the boiler controls	▶ Increase settings on boiler controls
Desired room temperature too high	Radiators are too hot	▶ Turn down thermostatic radiator valves/room thermostat ▶ Reduce central heating temperature by turning down the Central Heating control on boiler
Heating stays on for too long	Clock is incorrectly set	▶ Check setting and adjust
ON/OFF Indicator is not illuminated	Momentary power failure	▶ Disconnect boiler supply, wait a few seconds then reconnect.
Hot water temperature too low	Temperature set too low on boiler controls	▶ Check setting and adjust
	Water flow at tap too high	▶ Reduce flow rate at tap
	Air trapped in heating system	▶ Bleed radiators and recharge heating system
	Low system water pressure	▶ Re-pressurise the system, refer to pages 10
Hot water temperature too high	Temperature set too high on boiler controls	▶ Check setting and adjust
	Water flow at tap too low	▶ Increase flow rate at tap

Table 4 Fault finding

4.3 ERROR CODES

When calling Worcester, Bosch Group, you may be asked for the error code. This Table is for you to help identify the possible cause of the fault.

- ▶ Do not try to rectify any of the faults listed below by yourself.
- ▶ Contact British Gas or a competent, qualified engineer (Gas Safe registered personnel).

Error code		Description
A7	A7	Hot water NTC sensor defective.
A8	A8	Break in communication to TD200 or/and DT10
b1	b1	Code plug not detected.
C6	C6	Fan speed too low.
E2	E2	CH flow NTC sensor defective.
E9	E9	Safety temp. limiter in CH flow has tripped.
EA	EA	Flame not detected. Check, if it safe to do so: • is gas is on in the house • for frozen condensate pipe • for blocked flue outlet
F0	F0	Internal error.
F7	F7	Flame detected even though boiler switched off.
FA	FA	Flame detected after gas shut off.
Fd	Fd	Reset button pressed by mistake.

4.4 EXTREME COLD WEATHER

In some instances where the condensate pipe work is run externally or in an unheated area, such as a garage, the condensate pipe work can be at risk of freezing, even if well insulated.

A frozen/blocked condensate pipe will cause the boiler to shut down.

WARNING: Falling hazard!

Failure to follow this guidance may result in personal injury.

- Only attempt to thaw a condense pipe that is at ground level, and that is easily accessible.
- Never attempt to thaw a condense pipe that is at height.

CAUTION: Pipe damage

- **DO NOT** use boiling water to thaw the condensate pipe!

If the condensate pipe has frozen:

- Locate the blockage.
  It is likely that the pipe is frozen at the most exposed point outside the building or where there is an obstruction to flow.
  This could be the open end of the pipe, at a bend or elbow, or where there is a sag in the pipe in which condensate can collect.
  The location of the blockage should be identified as closely as possible before taking further action.
- Thaw the frozen pipe.
  The pipe can be thawed by applying a hot water bottle, a microwaveable heating pack (the sort used for muscular aches and pains) or a cloth soaked in hot water to the exterior of the pipe, close to the point of blockage.
  Hot water, but not boiling, can also be poured onto the pipe from a watering can or similar container.
- Once the pipe has been thawed the boiler must be reset, press the reset button for five seconds and wait two to three minutes for the boiler to restart.
- If the boiler does not restart, contact Worcester, Bosch Group Appointments Team on:
  0844 892 3000.
- Contact your installer in order to find a permanent solution to the problem.

5 GENERAL NOTES

SEALED HEATING SYSTEMS

This boiler is fitted to a sealed heating system which is pre-pressurised. The optimum level for system pressure on a Greenstar CDi Combination boiler is 1.5 bar indicated on the pressure gauge.

- ▶ Check regularly that the pressure is maintained.
- ▶ Contact your installer or maintenace engineer if a permanent significant drop is indicated on the pressure gauge.

For information on how to “Re-pressurise the heating system” refer to page 10.

PLUMING AND CONDENSATE DRAIN

This is a condensing boiler and the flue terminal will, at times give out a plume of water vapour. This is quite normal.
The boiler also produces quantities of condensate which is discharged regularly via a pipe to drain. This pipe must not be blocked or altered in any way.

PUMP ANTI-SEIZURE

If there has been no heating demand for 24 hours the boiler will run the system pump for a few seconds to reduce the possibility of pump seizure during long periods of inactivity. This is usually more frequent during the summer months.

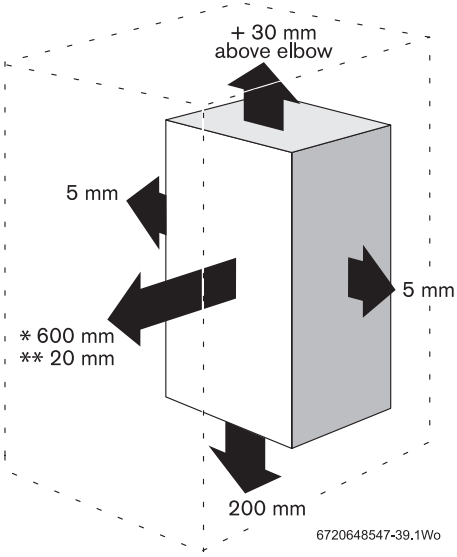
CLEARANCES

Your installer will have provided adequate space around the boiler for safety and servicing access.

*600 mm service clearance required to a fixed surface

(**20 mm from removable door or panel)

- ▶ Do not restrict this space with the addition of cubpoards, shelves etc. around or next to the boiler.



VENTILATION

This is a room sealed boiler and does not require any air for combustion from inside the property. If a compartment is built around the boiler after installation, then this must be carried out as described in the Installation Manual.

CAUTION: Risk of damage to the boiler.

- ▶ Do not operate the boiler if the flue terminal is obstructed or damaged in any way.

6 FAULT OR BREAKDOWN

This boiler is supported in the UK and Eire by Worcester, Bosch Group.

Specialist Service Engineers are available to attend a breakdown occurring on this boiler.

Invoices for attendance and repair work carried out on this boiler by any third party will not be accepted.

- No charge will be made for parts and/or labour providing:
  A boiler fault is found and the boiler is within the guarantee period. Reasonable evidence of this must be supplied on request. i.e. the Benchmark Checklist.
- A call-out charge will be made where:
  - The boiler is outside the guarantee period.
  - Evidence cannot be provided that the first year service inspection has been carried out (i.e. an entry in the Benchmark Checklist).
  - Our Field Service Engineer finds no fault with the boiler.
  - The cause of breakdown is misuse or with other parts of your plumbing/heating system, or with equipment not supplied by Worcester, Bosch Group.

TECHNICAL SUPPORT

No boiler fault is found on over 30% of all service calls.
In the case of a suspected fault, refer to the fault finding section of this guide.

In the event of a boiler fault or breakdown please contact Worcester, Bosch Group appointments team on 0844 892 3000. Your advisor will arrange for an engineer to call with the minimum of delay; under normal circumstances this will be from 1 - 3 working days (excluding weekends and bank holidays) for priority breakdown situations (no hot water and/or heating).

7 TIPS ON ENERGY SAVING

HEATING ECONOMICALLY

The boiler is designed to provide a level of comfort while keeping gas consumption and the resulting environmental effect as low as possible. The gas supply to the burner is controlled according to the level of demand for heat. The boiler continues to operate with a low flame if the demand of heat reduces. The technical term for this is modulating control. Modulating control reduces temperature
fluctuations and provides even distribution of heat throughout the home. This means that the boiler may stay on for relatively long periods but will use less gas than a boiler that continually switches on and off.

NEW CONTROL SYSTEMS

Upgrade your heating control system if necessary with the latest equipment available. The minimum level of control is a programmer, interlocking room thermostat and thermostatic radiator valves.

CENTRAL HEATING SYSTEMS WITH ROOM THERMOSTATS AND THERMOSTATIC RADIATOR VALVES

The central heating control on the boiler should be set to maximum rated temperature of the central heating system. The temperature of each room can be set individually (except room with the room
thermostat) using the thermostatic radiator valves. If damaged, replace the plastic tops used to adjust the thermostatic radiator valve. It is also advisable to manually adjust all thermostatic radiator valves every 2-3 weeks to prevent them sticking.

ROOM THERMOSTATS

Reducing the setting of the room thermostat by 1°C can reduce fuel consumption by up to 10 %.

ROOF INSULATION

Around 30 % of the heat loss from a property is through the roof. Replace any old insulation with new insulation, preferably of around 200 mm thickness or more.

WINDOW FRAMES

Single glazed windows, particularly those with steel frames, can loose a great deal of heat. Consideration should be given to replacement with PVCu or wooden framed double glazing units.

CURTAINS

Lined curtains, or heavier full length curtains can provide excellent insulation. However, always ensure that the curtains do not drape over radiators.

DRAUGHTS

To ensure that draughts around doors, windows, letterboxes and keyholes etc. are reduced by using a suitable draught excluder.

RADIATORS

Often radiators are sited underneath a window. The performance of the radiator will be affected if curtains are allowed to drape over radiator or shelves are fitted above it.

The temperature obtainable in any given room is dependent on all radiators being operated at the same time. If you decide to turn off radiators in unused rooms, spare bedrooms etc., you may experience slightly lower room temperatures in rooms adjacent to unheated rooms.

8 YOUR GUARANTEE

This boiler has a guarantee against faulty materials or workmanship for a period of two years from the date of installation subject to the following terms and conditions:

- During the period of this guarantee any components of the boiler which are proven to be faulty or defective in manufacture will be exchanged or repaired free of charge by Bosch Thermotechnology Ltd.
- The householder may be asked to prove the date of installation, that the boiler was correctly commissioned and, where appropriate, the first year's service has been carried out to the satisfaction of Bosch Thermotechnology Ltd., when requested. These should be documented as a part of the Benchmark Checklist.
- The boiler has been used only for the normal domestic purposes for which it was designed.

This guarantee does not affect your statutory rights.

GUARANTEE REGISTRATION

Your Greenstar boiler carries a two year guarantee against faulty material or manufacture subject to Terms and Conditions.
To read the full Terms & Conditions please visit us on-line at www.worcester-bosch.co.uk/guarantee. The Guarantee Registration form is available on this same page and can be completed and submitted electronically.
Alternatively please telephone one of our Guarantee Registration advisors on 0844 892 2552.
Your statutory rights are not affected by the manufacturers guarantee.

FOR YOUR OWN RECORD:

Please ensure that the Benchmark Checklist has been completed by your installer or service engineer.

Model	
Serial No.[1)]	
Type/size	
Date of installation	
Name of Installer	
Telephone number of Installer	

Table 5

1) See boiler identification label on boiler fascia or Benchmark Checklist in the back of the Installation, Commissioning & Servicing Instructions.

9 GLOSSARY

Central heating systems

All radiators must be heated at an even rate. If the top of a radiator is at a lower temperature than the bottom then it should be bled by releasing air through the bleed screw at the top of the radiator.
Ask your installer to show you how this is done.

This boiler is fitted to a sealed system. Should water leaks be found or if excessive bleeding is required, then a service engineer must be contacted to inspect the installation and rectify any fault.

Only additives that are compatible with aluminium may be used in the system. Any incompatible additive used will invalidate the guarantee.

Pluming and Condensate drain

This is a condensing boiler and the flue terminal will, at times give out a plume of water vapour. This is quite normal.

The boiler produces condensate which is discharged regularly by a syphon within the boiler via a plastic pipe to a drain. This pipe must not be blocked or altered in any way.

Room thermostat / programmer

A room thermostat / programmer must be fitted to control the central heating. This controls the times and temperatures of the central heating, preventing the boiler from firing unnecessarily. Refer to the instructions supplied with the thermostat and programmer for further information.

Thermostatic radiator valves

Thermostatic radiator valves must be fitted in sleeping accommodation. It is recommended that this type of valve is fitted to all but one of the radiators. The remaining radiator, where the room thermostat is located, must be uncontrolled and left open.

Pump over run function

After the boiler has finished a demand for central heating or hot water, the pump may continue to run for a short while to dissipate the heat from within the boiler.

Pump anti-seizure

If there has been no heating demand for 24 hours the boiler will run the system pump for a few seconds to reduce the possibility of pump seizure during long periods of inactivity.

SEDBUK

Seasonal Efficiency of Domestic Boilers in the UK.

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